

Listing of Claims

The following listing of claims replaces all prior versions and listings of claims in the application.

1-24. (Canceled)

25. (Currently amended) A nitride based semiconductor laser device comprising:

a light emitting layer composed of a Group III nitride based semiconductor and including an active layer; and

a cladding layer of a first conduction type composed of a Group III nitride based semiconductor, formed on said light emitting layer, having a larger band gap than said active layer, and having a lower refractive index than the active layer,

said cladding layer of a first conduction type has a ridge portion, and

the maximum thickness of said cladding layer of a first conduction type being less than 0.3 μm .

26. (Previously presented) The nitride based semiconductor laser device according to claim 25, wherein said cladding layer of a first conduction type has an aluminum composition ratio of not more than 0.05.

27. (Previously presented) The nitride based semiconductor laser device according to claim 25, wherein

said light emitting layer further includes an optical guide layer of a first conduction type formed on said active layer,

said optical guide layer of a first conduction type has a smaller band gap and a higher refractive index than said cladding layer of a first conduction type and has a larger band gap and a lower refractive index than said active layer, and

said cladding layer of a first conduction type is formed on said optical guide layer of a first conduction type.

28. (Previously presented) The nitride based semiconductor laser device according to claim 27, wherein

said light emitting layer further includes a carrier leakage preventing layer of a first conduction type formed on said active layer and having a larger band gap than said optical guide layer of a first conduction type, and

said optical guide layer of a first conduction type is formed on said carrier leakage preventing layer of a first conduction type.

29. (Previously presented) The nitride based semiconductor laser device according to claim 25, wherein the thickness of said ridged portion is less than $0.3\text{ }\mu\text{m}$.

30. (Previously presented) The nitride based semiconductor laser device according to claim 25, wherein said Group III nitride based semiconductor contain at least one of boron, gallium, aluminum, indium, and thallium.

31. (Previously presented) The nitride based semiconductor laser device according to claim 25, wherein said cladding layer of a first conduction type contains gallium and aluminum.

32. (Previously presented) The nitride based semiconductor laser device according to claim 25, wherein said active layer contains gallium and indium.

33. (Previously presented) The nitride based semiconductor laser device according to claim 25, wherein

said active layer has a multi-quantum well structure alternately including one or more well layers and a plurality of quantum barrier layers, and

the band gap of the active layer is the band gap of said one or more well layers.

34. (Previously presented) The nitride based semiconductor laser device according to claim 25, wherein

the electric field distribution of laser light in the active layer is changed in accordance with a sine function or a cosine function, and

the electric field distribution of laser light in the cladding layer of a first conduction type is changed in accordance with an exponential function.

35. (Previously presented) The nitride based semiconductor laser device according to claim 25, further comprising a current blocking layer formed on or in said cladding layer of a first conduction type and having a striped opening.

36. (Previously presented) The nitride based semiconductor laser device according to claim 25, wherein said first conduction type is a p type.

37. (Currently amended) The nitride based semiconductor laser device according to claim 25, further comprising

a cladding layer of a second conduction type composed of a Group III nitride based semiconductor,

wherein said light emitting layer is formed on said cladding layer of a second conduction type.